



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

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May 10, 2016

Mr. Ian Campbell
Massport – Logan International Airport
One Harborside Drive, Suite 200S
East Boston, MA 02128

RE: BOSTON-
Transmittal No.: X264661
Application No.: NE-15-006
Class: *OP*
FMF No.: 52936
AIR QUALITY PLAN APPROVAL

Dear Mr. Campbell:

The Massachusetts Department of Environmental Protection (“MassDEP”), Bureau of Air and Waste, has reviewed your Limited Plan Application (“Application”) listed above. This Application concerns the proposed modification, construction and operation of stationary snowmelter pits at Massachusetts Port Authority (Massport) – Logan International Airport located at One Harborside Drive in Boston, Massachusetts (“Facility”).

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 “Air Pollution Control,” regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-J, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP’s review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator (“Permittee”) must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

The Massachusetts Port Authority (“Massport” or “the Permittee”) owns and operates Logan International Airport (Logan), a 2,400-acre facility located in East Boston. It is a full-service airport, which accommodates a wide range of aircraft providing domestic and international passenger transport to more than 26 million passengers annually, air cargo handling, and general aviation. Logan consists of more than 50 buildings, six runways, adjoining taxiways, a cooling/heating plant that houses the largest emission units, and many ancillary facilities. The complex employs over 16,000 people and houses numerous tenant businesses.

One of the various operations conducted by Massport is snow removal. The Permittee currently owns and operates a fleet of portable snowmelters as well as in-ground snowmelters. Massport plans to replace two (2) existing in-ground snowmelters with two (2) in-ground industrial snowmelters, manufactured by Trecan, at the same location. The existing in-ground snowmelters, referred to in the Facility’s Operating Permit as Emission Unit (EU) 39 and EU40, each have a heat input capacity of 8.4 million British thermal units per hour (MMBtu/hr) and fire No. 2 distillate fuel oil. The proposed snowmelters will have a heat input capacity of 27.5 MMBtu/hr each and will fire only natural gas. The two proposed snowmelters will be referred to as EU 92 and EU 93 in the Facility’s Operating Permit. The two locations of the stationary snowmelters are near the South Cargo area of Logan Airport and are referred to as “snowmelter pit 11” and “snowmelter pit 13”. These snowmelters will aid in the snow removal at Logan Airport during the winter months. Massport will use the in-ground snowmelters, along with other existing fixed and portable snowmelters, to quickly remove and dispose of snow to reduce the impact that piles of stored snow would cause at terminals and on the airfield.

The Trecan model 120-SG snowmelters are capable of melting 120 tons of snow per hour and operate on a simple principle. High velocity, high heat release burners are fired directly into a pool of water, agitating and heating the water. The natural gas-fired burners receive air and fuel under pressure from a charging station (also to be provided by Trecan) and blower to push the heated air into the sump. Combustion takes place within the burners and the hot combustion gases are forced down below the water level, and then channeled up through a concentric weir. These hot gases carry with them a portion of the water, which keeps the water in the tank agitated and helps to break up the snow. Snow is melted as it is added to the melting tank and comes into contact with the turbulent warm water bath. The water that results from the melting operation is drained into a local storm drain. The melting tank’s overflow is positioned so that a proper water level is maintained throughout the operation.

The Permittee has proposed to limit the operation of each snowmelter to 300 hours per month and 600 hours per rolling twelve (12) month period. Each snowmelter can combust a total of 27,000 standard cubic feet of natural gas per hour. Therefore that limits the combustion of natural gas to 8.1 million cubic feet of natural gas per month, and 16.2 million cubic feet of natural gas per rolling twelve (12) month period for each snowmelter. To allow for operational

flexibility, the Permittee can combust up to a total of 16.2 million cubic feet of natural gas per month in the two proposed snowmelters combined, which equates to each of the two proposed snowmelters operating at a maximum of 300 hours per month. Additionally, the Permittee can combust up to a total of 32.4 million cubic feet of natural gas per rolling twelve (12) month period in the two proposed snowmelters combined, which equates to each of the two proposed snowmelters operating at a maximum of 600 hours per rolling twelve (12) month period.

2. **EMISSION UNIT (EU) IDENTIFICATION**

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1			
EU#	Description	Design Capacity	Pollution Control Device (PCD)
EU 92	Trean Model 120-SG Snowmelter consisting of two natural gas fired burners (located in Pit 11)	13,500 SCFH per burner or a total maximum heat input of 27.5 MMBtu/hr ¹	N/A
EU 93	Trean Model 120-SG Snowmelter consisting of two natural gas fired burners (located in Pit 13)	13,500 SCFH per burner or a total maximum heat input of 27.5 MMBtu/hr ¹	N/A

Table 1 Key:

EU# = Emission Unit Number

PCD = Pollution Control Device

SCFH = standard cubic feet per hour

MMBtu/hr = million British thermal units per hour

Footnote 1: The maximum heat input value for each snowmelter pit given in Table 1 above is based on a natural gas heating value of 1,020 British thermal units per standard cubic foot.

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2 below:

Table 2			
EU#	Operational / Production Limit	Air Contaminant	Emission Limit
EU 92 EU 93	Massport shall operate the subject snowmelters on an as needed basis. Massport shall limit the amount of natural gas combusted in both snowmelters to 16.2 million cubic feet of natural gas per month and 32.4 million cubic feet of natural gas per rolling twelve (12) month period.	NO _x	100 lb/10 ⁶ scf 0.41 tpm each EU 0.81 tpy each EU
		CO	84 lb/10 ⁶ scf 0.34 tpm each EU 0.68 tpy each EU
		PM/PM ₁₀ /PM _{2.5}	1.9 lb/10 ⁶ scf 0.031 tpm each EU 0.062 tpy each EU
		VOC	5.5 lb/10 ⁶ scf 0.022 tpm 0.045 tpy
		CO ₂	120,000 lb/10 ⁶ scf 486 tpm each EU 972 tpy each EU

Table 2 Key:

EU# = Emission Unit Number

NO_x = Nitrogen Oxides

CO = Carbon Monoxide

PM = Total Particulate Matter

PM₁₀ = particulate matter with an aerodynamic diameter of up to 10 microns

PM_{2.5} = particulate matter with an aerodynamic diameter of up to 2.5 microns

SO_x = Sulfur Oxides

VOC = Volatile Organic Compounds

CO₂ = Carbon Dioxide

TPM = tons per month

TPY = tons per consecutive 12-month period

lb/10⁶ scf = pounds per million standard cubic feet

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5 below:

Table 3	
EU#	Monitoring and Testing Requirements
EU 92 EU 93	1. In accordance with 310 CMR 7.04(4)(a), the Permittee shall inspect and maintain the burners associated with the snowmelters in accordance with the manufacturer's recommendations and shall test for efficient operation at least once per calendar year.
	2. The Permittee shall monitor natural gas usage of each snowmelter. A dedicated natural gas meter for each snowmelter shall track the operation of the burners, such that total emissions can be calculated for each snowmelter.
Facility -wide	3. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	4. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13.

Table 3 Key:

CMR = Code of Massachusetts Regulations

EU# = Emission Unit Number

MassDEP = Massachusetts Department of Environmental Protection

USEPA = United States Environmental Protection Agency

Table 4	
EU#	Record Keeping Requirements
EU 92 EU 93	<p>1. The Permittee shall maintain records of the inspection and maintenance activities performed on the subject snowmelters and monitoring equipment in accordance with 310 CMR 7.04(4)(a) and manufacturer’s recommendations. The records shall include, at a minimum, the type or a description of the inspection and/or maintenance activities performed and the date and time the work was completed.</p>
	<p>2. The Permittee shall record and maintain records of the natural gas usage amounts (with units of measure) associated with the subject snowmelters. The Permittee shall record emissions from each snowmelter based on natural gas usage. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve month period (current month plus prior eleven months). These records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/dep/air/approvals/aqforms.htm#report . The actual emissions shall not exceed the allowable emissions in Table 2 for monthly and twelve month rolling emissions respectively.</p>

Table 4	
EU#	Record Keeping Requirements
EU 92 EU 93	<p>3. A recordkeeping system shall be established by the Permittee and shall be maintained on site. All records shall be maintained up-to-date such that year-to-date information is readily available for MassDEP examination. Record keeping for the approved Emission Units and monitoring equipment shall, at a minimum, include:</p> <ul style="list-style-type: none"> a. The initiation and completion dates for each snowmelter's construction. b. Fuel usage log. The Permittee shall record the natural gas usage amounts with units of measure each time the Emission Unit(s) is/are operated. c. Maintenance. The Permittee shall maintain a record of routine maintenance activities including, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed. d. Malfunctions. The Permittee shall maintain a record of all malfunctions including, at a minimum: the date and time the malfunction occurred; a description of the malfunction and the corrective action taken; the date and time corrective actions were initiated; and the date and time corrective actions were completed and the facility returned to compliance. e. The Permittee shall maintain records documenting the air contaminant emission analysis supporting the response to BWP AQ 01 Section D. f. All records shall be kept by the Permittee on site for five (5) years from date of record and shall be made available to MassDEP upon request.
	<p>4. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date Standard Operating and Maintenance Procedure (SOMP) for the Emission Units approved herein on-site.</p>
	<p>5. A copy of this Plan Approval, underlying Application and the most up-to-date SOMP shall be easily accessible to personnel operating the subject equipment and for inspection by MassDEP personnel upon request.</p>
	<p>6. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.</p>

Table 4	
EU#	Record Keeping Requirements
EU 92 EU 93	7. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.
Facility -Wide	8. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	9. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.

Table 4 Key:

CMR = Code of Massachusetts Regulations

EU# = Emission Unit Number

MassDEP = Massachusetts Department of Environmental Protection

SOMP = Standard Operating and Maintenance Procedure

USEPA = United States Environmental Protection Agency

Table 5	
EU#	Reporting Requirements
EU 92 EU 93	1. The Permittee shall notify the Northeast Regional Office of MassDEP, BAW Permit Chief by telephone at 978-694-3200, email, nero.air@state.ma.us or fax 978-694-3499, as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to the Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	2. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a “Responsible Official” as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	3. The Permittee shall provide a copy of any record required to be maintained by this Plan Approval to MassDEP within 30-days from MassDEP’s request.
Facility -wide	4. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3 ‘Monitoring and Testing Requirements’.
	5. The Permittee shall submit to MassDEP a final stack emission test results report, within 45 days after emission testing, for emission testing as defined in Table 3 ‘Monitoring and Testing Requirements’.
	6. The Permittee shall report annually to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. Note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.

Table 5 Key:

BAW = Bureau of Air and Waste

CMR = Code of Massachusetts Regulations

EU# = Emission Unit Number

MassDEP = Massachusetts Department of Environmental Protection

4. **SPECIAL TERMS AND CONDITIONS**

The Permittee is subject to, and shall comply with, the following special terms and conditions:

- A. The Permittee shall comply with the Special Terms and Conditions as contained in Table 6 below:

Table 6	
EU#	Special Terms and Conditions
EU 92 EU93	1. No person shall operate a fuel utilization facility constructed, substantially reconstructed, or altered pursuant to 310 CMR 7.02(2) except in conformance with the requirements established therein and in conformance with the specific written plan approval requirements.
	2. The subject snowmelters shall be operated only on an as needed basis.
	3. The subject snowmelters shall operate such that the exhaust will not impact any fresh air intakes for any buildings or other structures located on property.
	4. Access to the Aircraft Rescue and Firefighting (ARFF) parking lot shall be restricted, and this area shall not be accessible to the general public during operation of the pit snowmelters. The Permittee shall submit a plan to MassDEP's Northeast Regional Office detailing how access to this area will be restricted during the operation of the subject snowmelters.
	5. This Final Approval does not negate the responsibility of owner/operator of the referenced facility to comply with this or any other applicable federal, state, or local regulations now or in the future. Nor does this approval imply compliance with any other applicable federal, state or local regulation now or in the future.

Table 6 Key:

CMR = Code of Massachusetts Regulations

EU# = Emission Unit Number

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

- J. The Permittee shall conduct emission testing, if requested by MassDEP, in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13. If required, a pretest protocol report shall be submitted to MassDEP at least 30 days prior to emission testing and the final test results report shall be submitted within 45 days after emission testing.
- K. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain “Fail-Safe Provisions,” which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or

town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Amy LaPusata by telephone at 978-694-3291, or in writing at the letterhead address.

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Amy E. LaPusata
Environmental Engineer
Bureau of Air and Waste

Susan P. Ruch
Deputy Regional Director
Bureau of Air and Waste

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Edward Braczyk
Supervising Environmental Engineer
Bureau of Air and Waste

P: /ALaPusata/Massport/Snowmelter Pit 11 & 13 (X264661)/LPA snowmelter pits 11 and 13 AL 05102016

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